Joint Precision Approach And Landing System (JPALS)

Industry Day
Capabilities
Documents
Overview

21 July 2004

Lt Col Jacqueline Jackson

CDR Steve Riley

Operational Capabilities-
WIPT Co-Chairs

Overview

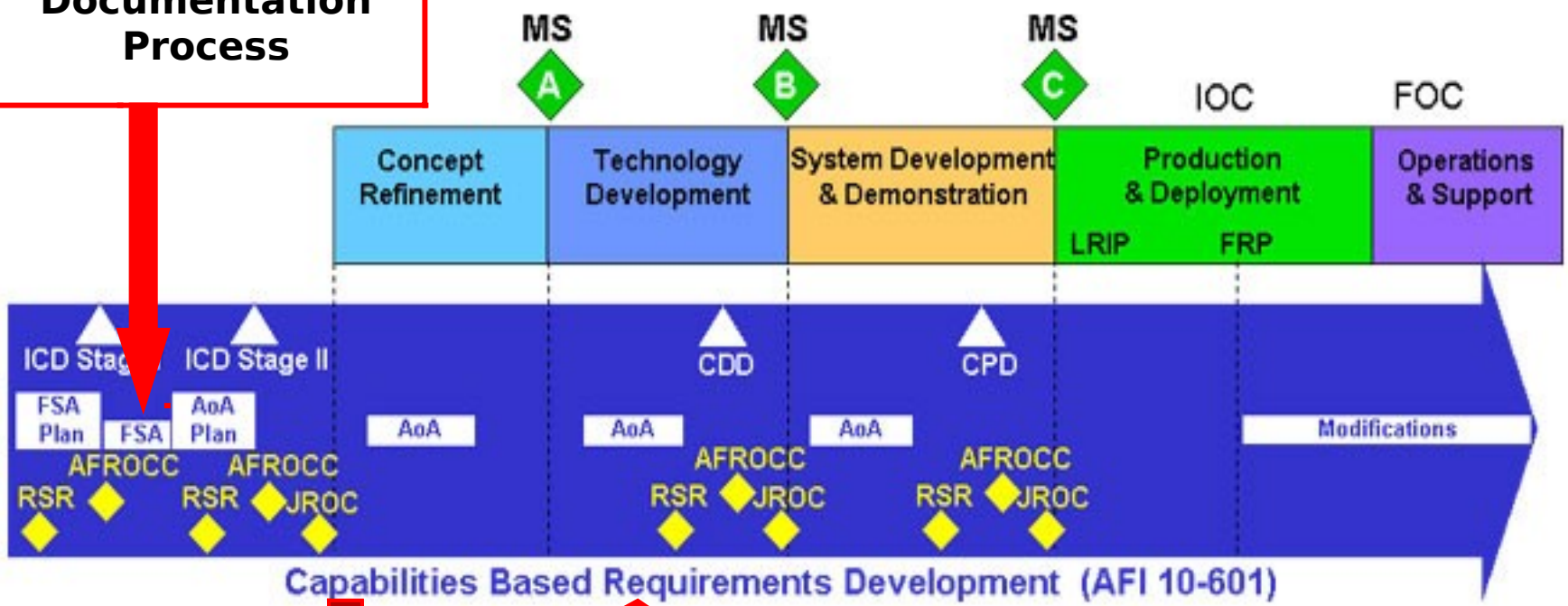
- **Requirements Offices**
- **Capabilities Documentation Process**
- **Initial Capabilities Document (ICD)**
- **Analysis of Alternatives (AoA) Update**
- **Capabilities Development Document (CDD)**
- **Potential KPPs**
- **Way Ahead**

Requirements Offices

- **HQ Air Force Flight Standards Agency, Resources and Requirements Directorate, Future Systems Division (Current Lead)**
  - **Lt Col Jackie Jackson**
- **Chief of Naval Operations, Air Warfare Division, Head, Airspace and Air Traffic Control (N785F)**
  - **CDR Steve Riley**
- **US Army Aeronautical Services Agency Army Liaison Officer to FAA**
  - **LTCOL Dave Manville**

Capabilities Documentation Process

We are here in the Capabilities Documentation Process



After ICD, we jump to here for the AoA Update and CDD

Initial Capabilities Document

- **In March 2004, Joint Staff J8 directed program to accomplish an ICD**
- **Expanded scope from original Precision Approach and Landing Capability (PALC) mission need statement**
  - **Departure/missed approach capability**
  - **Return to Ship Capability**
- **Functional Area Analysis complete**
  - **Precision Approach a needed capability**
- **Functional Needs Analysis underway**
  - **Will determine capability gaps**
- **Functional Solution Analysis is next**
- **Estimated validation date May 2005**

Analysis of Alternatives Update

- **OSD directed program to conduct an AoA update**
  - **Assumptions have changed since original 1997 AoA**
    - **Momentum for international standardization has not materialized**
    - **Timeframe now 2010-2024 vice 2005-2010**
    - **ILS and PAR would be phased out by 2010 -- now being retained until at least 2024**
  - **Will address technology changes and include evaluation of new capabilities and improvements to previously suggested alternatives**
- **Will be an extension of ICD analysis and the original AoA**
- **Results will feed into CDD**
- **Estimated approval date: August 2005**

Capabilities Development Document

- **Draft CDD will be updated to incorporate results of ICD and AoA**
- **<u>Probable</u> Increments:**
  - **Increment 1:**
    - **200 ft/½ SM—Supports Autoland (AL) Tactical/Fixed**
    - **0/0--AL Sea based**
  - **Increment 2:**
    - **100 ft/¼ SM--AL Tactical/Fixed**
  - **Increment 3:**
    - **200 ft/½ SM Special Mission**
    - **0/0 Special Mission**
- **Estimated validation for Increment 1 CDD: Oct 2005**

Operational Environments

Potential Key Performance Parameters

- **Guidance Quality**
- **Operational Availability**
- **Civil-Military Interoperability**
- **Vulnerability to Jamming/Spoofing**
- **Shipboard Compatibility**
- **Network-Ready KPP (as defined by CJCSI 6212.01C)**

These capabilities may be different for the various operational environments and increments

DRAFT ONLY: SUBJECT to CHANGE in CDD

Summary

- **Capabilities documentation is on track for Apr 06 Milestone B**

Joint Precision Approach And Landing System (JPALS)

Backups

Capability Gap

- **No single interoperable DoD / Civil precision approach and landing system**
  - **Only 30% of Navy and 50% of Army aircraft have ILS**
  - **PAR is not civil interoperable**
- **PAR and Mobile MLS are the only military deployable landing systems**
  - **Navy and Army not MLS capable**
  - **PAR and MMLS footprint too large for SOF**
- **Emerging sea based requirements cannot be met by any of the existing precision approach and landing systems**
  - **Joint Strike Fighter (JSF)**
  - **Joint Unmanned Combat Air System (J-UCAS)**
  - **Precision approach capability in Instrument Meteorological Conditions (IMC) operations in Emission Control (EMCON) environment**

What JPALS Brings To The Warfighter

- **JPALS will fix DoD interoperability capability gap**
- **Potential to address:**
  - **US civil interoperability pending future of FAA LAAS program**
  - **International civil interoperability gap, but:**
    - **No clear way ahead for single international standard**
    - **Current standards include ILS, MLS and GNSS**
  - **International military interoperability pending establishment of Precision Approach and Landing Capability (PALC) standard**
- **Spaced-based navigation in line with current trends**
- **Growth path to increased capability beyond core function of precision approach**